



Gulfwide Offshore Activities Data System for CY2005 (GOADS-2005)

Ms. Holli Ensz, MMS

Ms. Darcy Wilson, ERG

Mr. Andy Blackard, ERG

Mr. Brian Boyer, COMM Engineering

October 13, 2004



MMS Introduction

- Goal of program
- What structures should be included
- Schedule
- MMS Website
- FAQs



Goal of Program

- US EPA regulations for ozone, PM2.5, and regional haze require state agencies to perform modeling for use in their SIPs to show compliance with NAAQS and/or ways to improve air quality.
- Emission inventories are needed as input to conduct this air quality dispersion modeling.
- MMS must collect activity data from the operators to generate emission inventories.
- CY2005 EI will coincide with state agencies effort.



Structures to be Included

- All structures in the Western Gulf of Mexico (OCS west of $87^{\circ} 30'$ West longitude) except:
 - Living quarters
 - Structures with only fugitive emissions and/or a diesel crane engine (e.g., single well caissons)



Schedule

- Collect activity data for input into GOADS-2005 from January 1, 2005 to December 31, 2005.
- All activity data must be submitted to MMS by April 21, 2006.



MMS Website

- www.gomr.mms.gov/homepg/regulate/environ/requirements.html
- Under “Air Quality,” click on GOADS-2005
- Included on the website:
 - NTL No. 2004-G17
 - GOADS-2005 Software and User’s Guide
 - How to Submit Emissions Reports
 - Technical Support/Updates- Master List for Importing



FAQs

- A FAQs link on MMS' website will direct you on how to subscribe to an internet forum.
- All technical questions and associated answers related to GOADS-2005 will be listed on this forum.
- Any policy issues should be addressed to MMS.
- This forum will also direct you on how to get 2000 static import files.



Introduction to GOADS-2005

- Previous BOADS and GOADS-2000 data collection
- Improvements in GOADS-2005
- Interaction with GOADS-2000
- Data entry guidance
 - Using the new program
 - Volume vented
 - Volume flared
 - Losses from flashing
 - Fuel usage, composition
 - Fugitive component count
 - Watch units!
- GOADS-2005 demonstration



Previous Structure of GOADS-2000

- Data organization resulted in duplication of all platform and equipment data each month
- Results increased data volume, data entry, and processing time
- Results increased likelihood of data entry errors



New Data Organization for GOADS-2005

- User/operator information: static
- Platform description data: static
- Equipment description data: static
- Monthly platform and equipment activity data: dynamic



Examples of Static Platform Descriptive Data

- User ID
- Address
- Complex ID
- Structure ID
- Area
- Block
- Latitude/longitude
- Lease number
- Sales gas composition



Examples of Static Equipment Descriptive Data

- Equipment ID
- Stack parameters
- Control device details
- Fugitive component count
- Boilers: max rated fuel use
- Mud degassing: mud type



Examples of Static Equipment Descriptive Data, continued

- Natural gas turbines and engines: max horsepower
- Pneumatic pumps: manufacturer, model
- Pressure level controllers: manufacturer, model, service type
- Storage tanks: dimensions



Examples of Dynamic Equipment Data (monthly)

- Operating hours
- Fuel usage rate
- Total fuel used
- Processed throughput
- Volume flared
- Volume vented
- Volume loaded



Other Improvements to GOADS-2005

- Volume vented and flared activity data simplified
- Print screen function/review of data entered
- Access file import and export features
- Excel export feature
- Flag inactive platforms or equipment as “No Emissions to Report”



Interaction with GOADS-2000

- Import feature for GOADS-2000 static description platform and equipment data
- Request GOADS-2000 files from MMS for import into GOADS-2005
- January, 2005 descriptive fields populated
- Review data closely and edit as needed
- Create records for new structures and equipment that were not in place in 2000

New User

Please enter your User Information

MMS Company No*: (5 characters or less)

Contact Name*:

Phone*: () - ext

Fax: () -

Email:

Company Name*:

Address 1*:

Address 2:

City*:

State*:

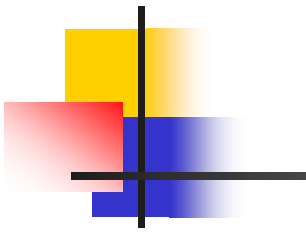
Zip Code*:

Inventory Year*:

* = Required Information

OK

Cancel

 MMS Gulfwide Offshore Activity Data System (GOADS-2005) - Activity Edit Mode

File Edit Help

Operator: 12345
Monthly Survey 2005/01

Operator

General Information

Add Next
Monthly
Survey

GOADS-2005 Registered User

Contact Name:

Phone:

Fax:

Email:

Company Name:

Address 1:

Address 2:

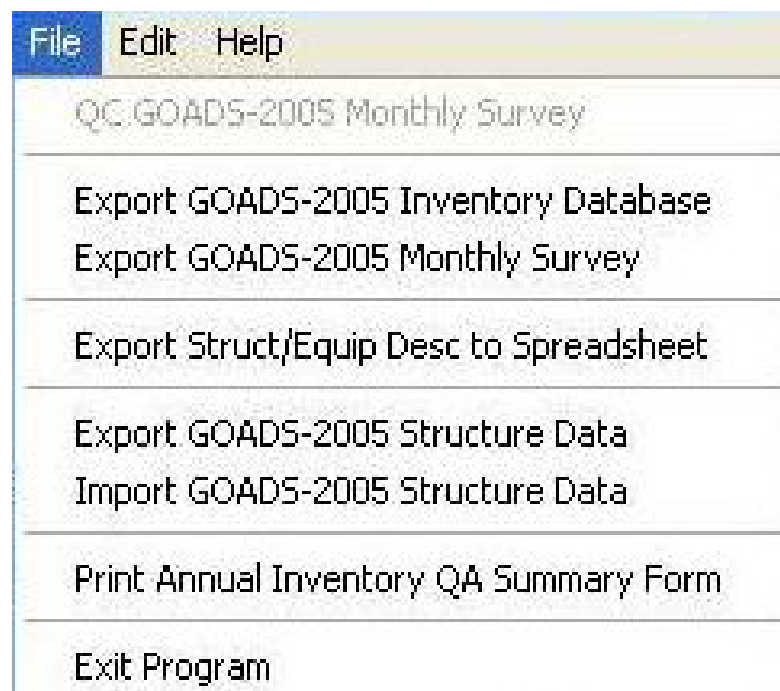
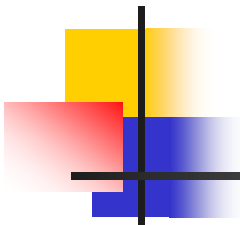
City:

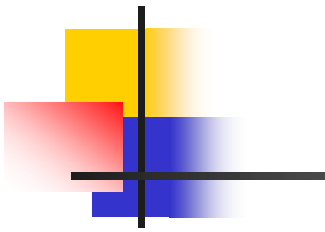
State:

Zip Code:

Edit Description Data Print Screen Edit Data

Operator: 12345

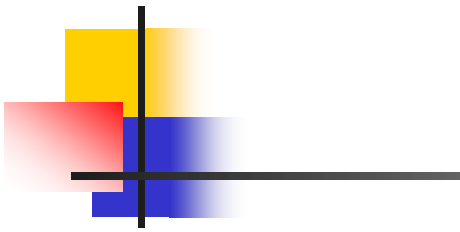




Import GOADS-2005 Structure Data

MMS Complex ID	MMS Structure ID	Area	Block	Struct Name
20005	1	GI	37	CS
20008	1	GI	37	R
20009	1	GI	37	Y
20011	1	GI	26	X
20049	1	ST	24	U
20057	1	BM	2	W
20065	1	ST	23	S
20197	1	MP	299	D
20200	1	MP	144	B
20201	1	MP	144	A
20204	1	ST	23	EE
20206	1	ST	24	SC
20207	1	ST	23	CC
20223	1	WD	117	D
20224	1	WD	117	E
20225	1	WD	117	C
20225	2	WD	117	Quarters
20332	1	MP	42	E
20390	1	MP	41	B
20390	2	MP	41	BB
20390	2	MP	41	C

Select File Import Selected Structures Close



Export GOADS-2005 Structure Data

MMS Complex ID	MMS Structure ID	Area	Block	Struct Name
12345	1	1	1	1

Export File Path and Filename:

MMS Gulfwide Offshore Activity Data System (GOADS-2005) - Activity Edit Mode

File Edit Help

Structure - EDIT MODE

Operator: 12345
Monthly Survey 2005/01
HH, A000, Z

General Information QC Results

MMS Struct. ID: 11
MMS Cmplx. ID: 1234567
Area: HH
Block: A000
Structure Name: Z

Lease Number: OCG-G-00
Longitude (dec. degrees): -92
Latitude (dec. degrees): 25.6
Distance To Shore (mi): 103

Structure Contact Info.
Name: My Name
Phone: (111) 111 - 1111
Email: MyName@mail.com

Production Total Throughput Total Fuel Usage

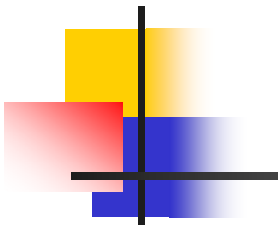
Crude Oil (bbl): 33000 33000 Natural Gas (Mscf): 29999
Natural Gas (MMscf): 122 122 Gasoline (gal): 6767
Diesel (gal): 0

Comments:

☐ No Emissions to Report

Description Edit Mode Print Screen Run QC Save Cancel Save & Leave Edit Mode

Operator: 12345\Monthly Survey 2005/01\HH, A000, Z



MMS Gulfwide Offshore Activity Data System (GOADS-2005) - Activity Edit Mode

File Edit Help

Flare - EDIT DATA

Operator: 12345

- Monthly Survey 2005/
- Monthly Survey 2005/
 - BA, A105, A
 - Cold Vent: 1234
 - Combustion Flare
 - Diesel or Gasoline
 - Diesel or Gasoline
 - Diesel or Gasoline
 - NG Engine: CE-
 - NG Engine: GE-
 - NG Engine: GE-
 - Pneumatic Pump
 - Pneumatic Pump
 - Pneumatic Pump
 - Pneumatic Pump
 - Pneumatic Pump
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level

General Information | **QC Results**

Flare Gas H₂S Concentration (ppmv):

Is there a continuous pilot?

Pilot Fuel Feed Rate (Mscf/day):

Flare Combustion Efficiency (%):

Smoking Condition:

Stack Outlet Elevation (ft msl):

Stack Inner Diameter (in):

Avg. Exit Velocity (ft/s), excl. upsets:

Avg. Combustion Temp. (°F):

Stack Orientation (degrees):

Hours Operated (hrs), including upsets:

Volume Flared (Mscf), including upsets:

Comments:

☐ No Emissions to Report

Edit Description Data | Print Screen | Run QC | Save | Cancel | End Edit & Save

Operator: 12345\Monthly Survey 2005/02\BA, A105, A\Combustion Flare: 12345



QA Summary Form

- Must be printed and submitted with GOADS-2005 file
- Can be printed at any time
- Does not supersede QC results
- Identifies key data that are needed to calculate emission estimates
- Data fields also listed in Appendix B of User's Guide



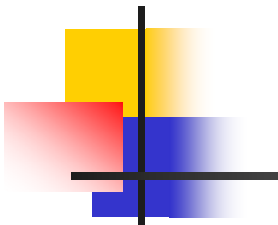
Exporting Files

- Export entire inventory at one time for submittal to MMS (preferred)
- Can export select monthly surveys
- Can export only descriptive data



Technical Issues

- Volume vented
- Volume flared
- Losses from flashing
- Fuel usage, composition
- Fugitive component count



MMS Gulfwide Offshore Activity Data System (GOADS-2005) - Activity Edit Mode

File Edit Help

Flare - EDIT DATA

Operator: 12345

- Monthly Survey 2005/
- Monthly Survey 2005/
 - BA, A105, A
 - Cold Vent: 1234
 - Combustion Flare: 12345
 - Diesel or Gasoline
 - Diesel or Gasoline
 - Diesel or Gasoline
 - Diesel or Gasoline
 - NG Engine: CE-
 - NG Engine: GE-
 - NG Engine: GE-
 - Pneumatic Pump
 - Pneumatic Pump
 - Pneumatic Pump
 - Pneumatic Pump
 - Pneumatic Pump
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level
 - Pressure/Level

General Information **QC Results**

Flare Gas H2S Concentration (ppmv):

Is there a continuous pilot?

Pilot Fuel Feed Rate (Mscf/day):

Flare Combustion Efficiency (%):

Smoking Condition:

Stack Outlet Elevation (ft msl):

Stack Inner Diameter (in):

Avg. Exit Velocity (ft/s), excl. upsets:

Avg. Combustion Temp. (°F):

Stack Orientation (degrees):

Hours Operated (hrs), including upsets:

Volume Flared (Mscf), including upsets:

Comments:

☐ No Emissions to Report

Edit Description Data Print Screen Run QC Save Cancel End Edit & Save

Operator: 12345\Monthly Survey 2005/02\BA, A105, A\Combustion Flare: 12345

MMS Gulfwide Offshore Activity Data System (GOADS-2005) - Activity Edit Mode

File Edit Help

Losses from Flashing - EDIT DATA

General Information **QC Results**

Type of Vessel: Heater Treater

API gravity of stored oil: 41

Operating Pressure of Vessel (psig):

Operating Temperature of Vessel (F):

Oil/Condensate Throughput (bbls):

Op Press upstream of Vessel (psig):

Op Temp upstream of Vessel (F):

SCF of flash per bbl of oil:

Comments:

☐ No Emissions to Report

Edit Description Data Print Screen Run QC Save Cancel End Edit & Save

Operator: 12345\Monthly Survey 2005/01\HI, 140, A\Losses from Flashing: FG-01

MMS Gulfwide Offshore Activity Data System (GOADS-2005) - Description Edit Mode

File Edit Help

Operator: 12345
xx, zz, abc
Losses from Flashing: 1

Losses from Flashing

General Information **Ventilation System** QC Results

Emissions Destination:

Remote Vent/Flare ID:

Outlet Height (ft above msl):

Outlet Inner Diameter (in):

Exit Velocity (ft/s):

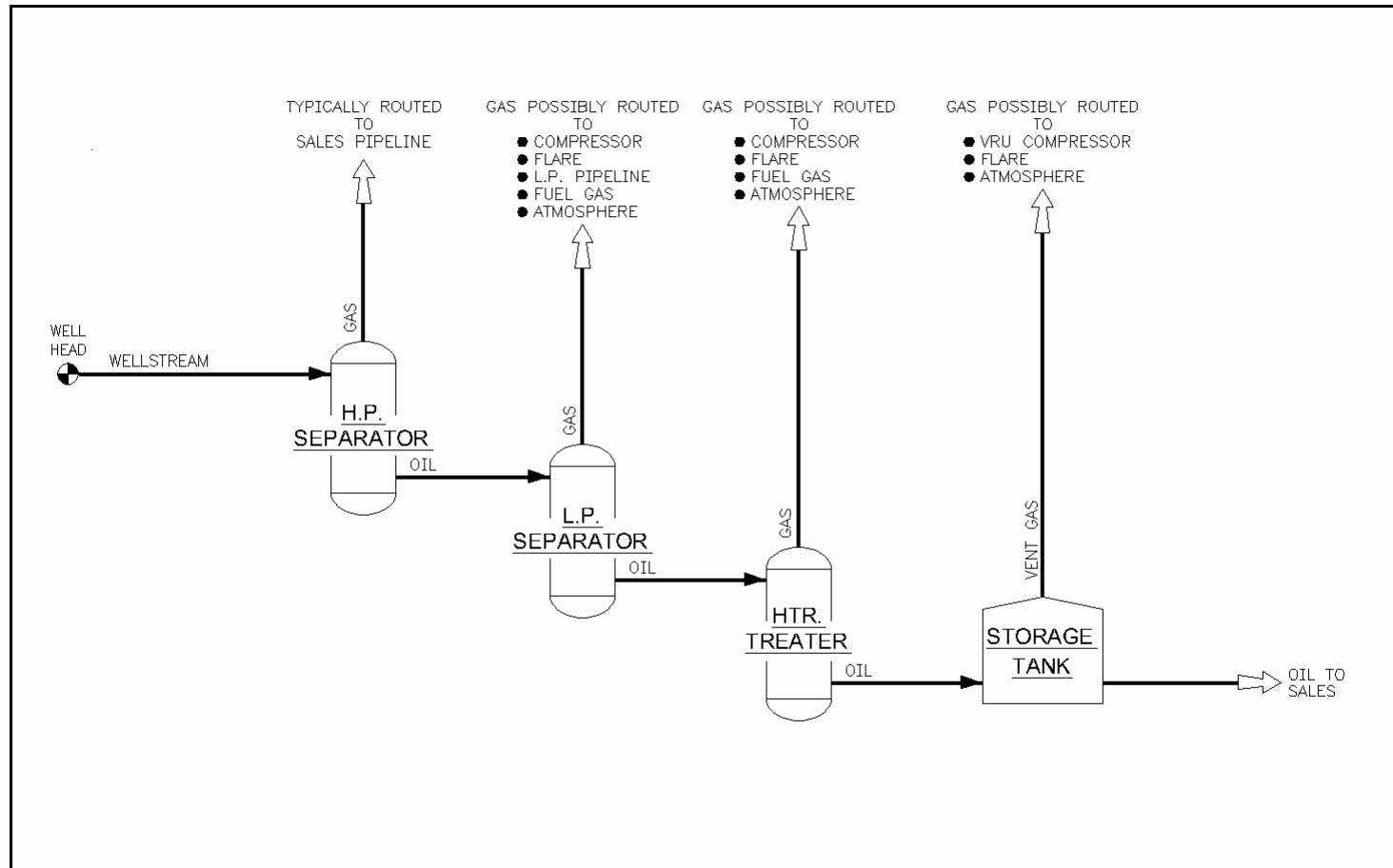
Exit Temperature (°F):

Outlet Orientation (degrees):

Edit Activity Data Print Screen Run QC Edit Data

Operator: 12345\xx, zz, abc\Losses from Flashing: 12345

Losses from Flashing





Losses from Flashing - GOR

- Direct measurement
- Vasquez-Beggs Correlation Equations (SPE Paper 6719)
- Griswold and Ambler GOR Chart Method (SPE Paper 7175)
- Lab analysis of pressurized oil sample gas-to-oil ratio (GOR)
- API E&P TANK Version 2 software
- Process simulators such as HYSYS or PROSIM



Losses from Flashing - GOR

- LP sep. oil to heater treater (HT) that dumps to atm. storage tank (T-1) that vents its flash gas to atmosphere.
- The LP sep. flash gas to the suction of the onsite compressor (i.e., the system). The heater treater vents its flash gas remotely to the low pressure vent system (V-1).



Losses from Flashing - GOR

- Create two flash records, FLASH-1 and FLASH-2
- FLASH-1, enter data for the flash between the LP to HT - vents to V-1
- FLASH-2, enter data for the flash between the HT and T-1 - vents locally
- LP sep sends gas to the onsite compressor, and flash not vented to atm. (or flared) and would not be reported.

MMS Gulfwide Offshore Activity Data System (GOADS-2005) - Description Edit Mode

File Edit Help

Diesel or Gasoline Engine - EDIT DATA

General Information Exhaust System Control Equipment QC Results

Operator: 12345

- BA, A105, A
- BA, A133, A
 - Diesel or Gasoline Engine: DIE-01
 - Diesel or Gasoline Engine: DIE-02
 - NG Engine: NGE-01
 - NG Engine: NGE-02
- BA, A19, B
- BA, A19, C
- BA, A19, D
- BA, A70, A
- EC, 62, TEMP CAIS, #
- EL, 175, J
- EL, 335, A Platform
- GA, 255, A
- GC, 254, ALLEGHENY
- HI, 110, A
- HI, 110, B
- HI, 129, #5
- HI, 135, #2
- HI, 136, #3
- HI, 136, #5
- HI, 136, A
- HI, 140, A
- HI, 140, A-Aux
- HI, 140, C
- HI, 154, A

Engine Elevation (ft above msl): 70

Fuel Type: Diesel

Fuel Sulfur Content (% by mass): 0.5

Max Rated Horsepower (hp): 155

Fuel Heating Value (Btu/lb): 19300

Max Rated Fuel Usage (Btu/hp-hr): 7000

Edit Activity Data Print Screen Run QC Save Cancel End Edit & Save

Operator: 12345\BA, A133, A\Diesel or Gasoline Engine: DIE-01

MMS Gulfwide Offshore Activity Data System (GOADS - 2005) - Activity Edit Mode

File Edit Help

Diesel or Gasoline Engine - EDIT DATA

General Information QC Results

Monthly Survey 2005/

- BA, A105, A
- BA, A133, A
 - Diesel or Gasoline
 - Diesel or Gasoline
 - NG Engine: NG
 - NG Engine: NG
- BA, A19, B
- BA, A19, C
- BA, A19, D
- BA, A70, A
- EC, 62, TEMP, CAI
- EI, 175, J
- EI, 335, A Platform
- GA, 255, A
- GC, 254, ALLEGHE
- HI, 110, A
- HI, 110, B
- HI, 129, #5
- HI, 135, #2
- HI, 136, #3
- HI, 136, #5
- HI, 136, A
- HI, 140, A
- HI, 140, A-Aux
- HI, 140, C
- HI, 154, A

Engine Elevation (ft above msl): 70

Fuel Type: Diesel

Fuel Sulfur Content (% by mass): 0.5

Max Rated Horsepower (hp): 155

Fuel Heating Value (Btu/lb): 19300

Max Rated Fuel Usage (Btu/hp-hr): 7000

Total Fuel Used (gal):

Hours Operated (hrs):

Operating Horsepower (hp):

Average Fuel Usage (Btu/hp-hr):

Comments:

☐ No Emissions to Report

Edit Description Data Print Screen Run QC Save Cancel End Edit & Save

Operator: 12345\Monthly Survey 2005/01\BA, A133, A\Diesel or Gasoline Engine: DIE-01

MMS Gulfwide Offshore Activity Data System (GOADS-2005) - Description Edit Mode

File Edit Help

Fugitives - EDIT DATA

Operator: 12345

- * BA, A105, A
- * BA, A133, A
- * BA, A19, B
- * BA, A19, C
- * BA, A19, D
- * BA, A70, A
- EC, 62, TEMP, CAIS, #
- * EL, 175, J
- * EL, 335, A Platform
- * GA, 255, A
- * GC, 254, ALLEGHENY
- * HI, 110, A
- * HI, 110, B
- * HI, 129, #5
- HI, 135, #2
- HI, 136, #3
- HI, 136, #5
- * HI, 136, A
- * HI, 140, A
- * HI, 140, A-Aux
- Fugitives: 12345
- * HI, 140, C
- * HI, 154, A
- HI, 161, B
- * HI, 179, A
- * HI, 193, A

General Information **QC Results**

Stream Type:

Facility Size:

Avg. VOC Weight Percent of Fugitives:

Avg Equipment Elev. (ft above msl):

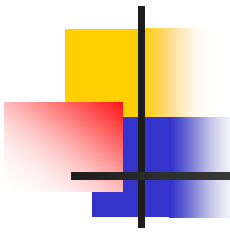
Equipment Inventory (number of components)

Valves:	<input type="text"/>	Drains:	<input type="text"/>
Pump Seals:	<input type="text"/>	Dump Arms:	<input type="text"/>
Connectors:	<input type="text"/>	Hatches:	<input type="text"/>
Flanges:	<input type="text"/>	Instruments:	<input type="text"/>
Open Ended Lines:	<input type="text"/>	Meters:	<input type="text"/>
Centrifugal Compressors - # Wet seals:	<input type="text"/>	Pressure Relief Valves:	<input type="text"/>
Centrifugal Compressors - # Dry seals:	<input type="text"/>	Polished Rods:	<input type="text"/>
Recip. Comp. - # Shaft packing seals:	<input type="text"/>	Other Relief Valves:	<input type="text"/>
Other Compressors - # seals:	<input type="text"/>		
Diaphragms:	<input type="text"/>		

Comments:

Edit Activity Data Print Screen Run QC Save Cancel End Edit & Save

Operator: 12345\HI, 140, A-Aux\Fugitives: 12345



Skid Type	Valves	Pump Seals	Threaded Connections	Flanges	Open Ended Lines	Compressor Seals*	Diaphragms	Drains	Dump Arms	Hatches	Instruments	Meters	Pressure Relief Valves	Polished Rods	Other Relief Valves
Separator Skid	34	0	13	73	0	0	0	2	0	0	15	1	1	0	0
Heater Treater Skid	98	0	70	114	0	0	0	3	0	0	25	0	3	0	0
LACT Charge Pump Skid	21	3	6	47	0	0	0	1	0	0	9	0	0	0	0
LACT Skid	62	1	75	69	0	0	0	1	0	0	34	4	6	0	0
Pipeline Pumps Skid	39	3	12	78	0	0	0	2	0	0	70	0	3	0	0
Pig Launcher/Receiver Skid	13	0	14	16	0	0	0	0	0	0	9	0	1	0	0
Compressor Skid	119	0	113	138	0	4	0	1	0	0	69	0	9	4	0
Filter/Separator Skid	30	0	25	37	0	0	0	1	0	0	9	0	1	0	0
Gas Dehydration Skid	23	0	14	40	0	0	0	1	0	0	12	0	1	0	0
Glycol Regeneration Skid	134	0	110	194	0	0	0	4	0	0	45	1	7	6	1
Gas Meter	10	0	11	26	0	0	0	1	0	0	21	2	0	0	0
Fuel Gas Skid	62	0	47	85	0	0	0	1	0	0	32	1	4	0	0
Flotation Cell Skid	41	1	34	70	0	0	1	1	0	15	8	0	2	0	2
Scrubber	13	0	13	18	0	0	0	1	0	0	9	0	1	0	0
Amine Unit	226	8	166	391	0	0	1	5	0	0	121	2	12	0	1
Line Heater	30	0	46	18	0	0	0	1	0	0	10	0	0	0	1
Production Manifold	108	0	31	148	0	0	0	1	0	0	43	0	0	7	0
Wellhead	15	0	6	19	0	0	0	0	0	0	11	0	0	0	0
Import or Export Pipeline	3	0	0	9	0	0	0	0	0	0	0	0	0	0	0



GOADS-2005 Demonstration
